

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

SO Vecheryaya Moscow  
Sum 71

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

GLUKHOV, V.A., kandidat tekhnicheskikh nauk.

Effect of pressing on the visible shape and physical condition  
of part surfaces. Trudy RIIZHT no.17:180-185 '53. (MIRA 9:6)  
(Car axles)

KRIVORUCHKO, Nikolay Zakharovich, kand. tekhn. nauk; SLUSHAYENKO, A.M.,  
dotsent, retsenzent; YELISEYEV, I.G., dots., retsenzent; LEMET, E.S.,  
dots., retsenzent; GLUKHOV, V.A., dots., re'senzenz; KITANOV, F.I.,  
inzh., retsenzent; TSIMIDANOV, V.M., inzh., retsenzent; DOROFEEV,  
V.G., inzh., retsenzent; KALEDINKOV, S.S., inzh., retsenzent; KOROLEV,  
A.N., inzh., retsenzent; LOKSHIN, Kh.A., inzh., retsenzent; FIRSOV,  
S.I., inzh., retsenzent; SHAKURSKIY, K.D., inzh., retsenzent; UTKIN,  
A.V., tekhn., retsenzent; VALETOV, A.I., inzh., red.; BOBROVA, Ye.N.,  
tekhn. red.

[Operation, management, and repair of rolling stock] Vagonnoe kho-  
ziaistvo. Moscow, Vses.izdatel'sko-poligr. ob"edinenie M-va putei  
soobshcheniya, 1961. 319 p. (MIRA 14:11)

1. Kafedra "Konstruktsiya, remont i ekspluatatsiya vagonov" Rostov-  
skogo instituta inzhenerov zheleznychornogo transporta (for all  
except Valetov, Bobrova).

(Railroads--Rolling stock)

RIZNICHENKO, Yu.V.; GLUKHOV, V.A.

Impulse ultrasonic seismic logging. Izv. AN SSSR. Ser. geofiz.  
no.11:1258-1268 N '56. (MIRA 10:1)

1. Akademiyz nauk SSSR Institut fiziki Zemli.  
(Prospecting -Geophysical methods) (Seismology)

GLUKHOV, V. A.

124-11-13246

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 139 (USSR)

AUTHORS: Riznichenko, Yu. V., Silayev, O. I., Shamina, O. G., Myachkin, V. I.,  
Glukhov, V. A., Vinogradov, S. D.

TITLE: Seismo-Acoustic Methods for the Study of Stress Conditions in  
Mountain Rocks on Samples and In Loco. (Seismoakusticheskiye  
metody izucheniya napryazhennogo sostoyaniya gornykh porod na  
obraztsakh i v massive.)

PERIODICAL: Tr. Geotiz. in-ta A N SSSR, 1956, Nr 34 (161), pp 74-163

ABSTRACT: The study surveys various methods for the investigation of stress  
conditions in mountain rocks. Principal attention is directed to the  
impulse method and the acoustic method. It is indicated that with an  
increase in pressure the modulus of elasticity grows faster than the  
density. Therefore, the speed of sound, which is proportional to the  
square root of the ratio of the modulus of elasticity and the density,  
increases with increasing pressure; more specifically, the speed of  
sound is proportional approximately to the one-sixth power of the  
pressure. It is noted, further, that the formation of cracks, at the  
pressure. It is noted, further, that the formation of cracks, at the

Card 1.2

124-11-13248

**Seismo-Acoustic Methods for the Study of Stress Conditions in Mountain Rocks on Samples and In Loco. (Continued)**

inception of failure of mountain rocks, is accompanied by a crackling noise. The study of the vibrations arising in the rock during failure is the basis of the acoustic method.

A description of a laboratory set-up for the study of the velocity of sound in stressed rock samples is offered, also a description of model tests and observations in mines by means of the seismic impulse method.

A survey is made of destructive compression tests on rocks, the apparatus and methodology for the study of the elastic impulses accompanying their failure, and corresponding observations in mines.

Bibliography: 77 references.

(G. I. Pokrovskiy)

Card 2/2

GLUKHOV, V. F. Cand Vet Sci -- (diss) "Anti-tick treatments of large-horn cattle ~~in~~ with acaricide emulsions in the prophylaxis of hemoplasmodiosis under conditions of the Stavropol'skiy Kray, and the effect of these treatments upon the tick fauna." Len 1957. 23 pp 10 cm. (Min of Agr USSR. Len Vet Inst), 120 copies (KL, 24-57, 120)

NIKOL'SKIY, S.N., doktor veterinarnykh nauk.; OLUKHOV, V.F.; POKIDOV, I.I.

Treating cattle with hexachloran to control ticks. Dokl. Akad. sel'khoz. 22 no.2:42-48 '57.

(MLRA 10:5)

1. Stavronol'skiy sel'skokhozyaystvennyy institut. Predstavlena akademikom S. N. Muromtsevym.  
(Benzene hexachloride) (Ticks)  
(Cattle--Diseases and pests)

*Glukhov*,  
NIKOL'SKIY, S.N., prof.; GLUKHOV, V.P., aspirant.

Complications in cattle being treated with acaricidal emulsions.  
Veterinariia 34 no.2:64-68 F '57. (MLRA 10:11)

1. Stavropol'skiy sel'skokhozyaystvennyy institut.  
(Disinfection and disinfectants) (Cattle--Diseases and pests)

NIKOL'SKIY, S.N., professor.; GIUKHOV, V.F., aspirant.

Acaricide emulsions for controlling ixodid tick invasions in cattle.  
Veterinariia 34 no.3:49-57 Mr '57. (MLRA 10:4)

1. Stavropol'skiy sel'skokhozyaystvennyy institut.  
(Insecticides) (Veterinary medicine)

GLUKHOV, V.I.; KURAKIN, A.T.; ZHERDETSKAYA, N.N., red.; REYZMAN, Ye.Ye.,  
tekhn.red.

[Techniques of sound recording for motion-picture films:  
experience of amateur motion-picture photographers] Tekhnika  
ozvuchaniia fil'ma; iz opyta raboty kinoliubitelei. Moskva, Gos.  
izd-vo "Iskusstvo", 1960. 85 p. (MIRA 13:4)  
(Motion pictures, Talking)

GLUKHOV, V.I., inzh.

Equipment for reverse buckets of E-1251 and E-1252 excavators.  
Stroi.i dor.mashinostr. 5 no.1:14-16 Ja '60. (MIRA 13:5)  
(Excavating machinery--Equipment and supplies)

L 18907-66 EWT(m)/EMP(j)/T WW/RM

ACC NR: AP6008054

SOURCE CODE: UR/0020/66/166/004/0901/0904

AUTHOR: Kurilenko, A. I.; Glukhov, V. I.

48  
B

ORG: Affiliate of the Physicochemical Institute im. L. Ya. Karpov (Filial Fiziko-khimicheskogo instituta)

TITLE: Study of the process of graft polymerization of acrylonitrile on capron fibers

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 901-904

TOPIC TAGS: polymerization kinetics, acrylonitrile, synthetic fiber, free radical, sorption

**ABSTRACT:** The influence of the permeability of capron fibers on the kinetics of graft polymerization of acrylonitrile carried out from the gas phase by the post-effect method was investigated. The experimental data on these kinetics and on the disappearance of free radicals associated with this process are quantitatively compared with the results of a study of the sorption of acrylonitrile by  $\text{Co}^{60}$ -irradiated capron fibers at 20-90°C. The polymerization rate was found to be determined by

UDC: 541.64

Card 1/2

L 18907-66

ACC NR: AP6008054

the diffusion of the monomer, but it is independent of the fiber diameter and is proportional to the equilibrium concentration of the sorbed acrylonitrile. The ESR signal does not change in the course of the disappearance of free radicals; apparently, the radicals of capron initiate the graft polymerization of acrylonitrile, and the lifetime of the growing chains is such that they do not accumulate in any appreciable quantities. A mechanism accounting for the results of the kinetic measurements is proposed. Whatever the conditions of graft polymerization, in processing the results of kinetic measurements it is necessary to use experimental data on the sorption of the monomer by the material. It is concluded that the processes of sorption and graft polymerization cause changes in the structure of the material, and this in turn may affect the course of these processes. The paper was presented by Academician V. A. Kargin on 25 May 1965. Orig. art. has: 4 figures, 1 table, 3 formulas.

SUB CODE: 07, 11 SUBM DATE: 16May65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 inc

112-2-2985D

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 2, p. 47 (USSR)

AUTHOR: Glukhov, V.K.

TITLE: Automatic Control of the Salt Content in Boiler Water  
(Avtomaticheskoye regulirovaniye solesoderzhaniya kotlovoy vody)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Central Scientific Research Boiler and Turbine Institute (Tsentr. n.-i. kotloturb. in-t), Leningrad, 1956.

ASSOCIATION: The Central Scientific Research Boiler and Turbine Institute (Tsentr. n.-i. kotloturb. in-t)

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CIA-RDP86-00513R000515420006-8

GLUKHOV, V.K., kand. tekhn. nauk.

Automatic control of chemical behavior of water in thermal power plants.  
Energomashinostroenie 4 no.8:32-35 Ag '58. (MIRA 11:11)  
(Automatic control) (Feed-water purification)

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CIA-RDP86-00513R000515420006-8

GLUTEROV, V. N. (V. N. Glutov), Director, M. V. Keldysh Institute,  
Korolev, Moscow, USSR.

Programming of the start operation of a 300 Mw. block  
with a control computer. Trigeminin-stroenie 9 model's  
(M.P. 17.6)  
Mr. G. A.

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

PIVOVAROV, V.I., Postnikov, V.N.; ...

BOGDANOV, V.K., Postnikov, N.N.

Automatic control in large power generating blocks.

Energomashinostroenie. 9 m.01-3 S-1(3).

(MIRA 16:1c)

Country : USSR  
Category : Soil Science. Cultivation. Improvement.  
Erosion. J

Abs Jour : RZhBiol., No 6, 1959; No 24670

Author : Glukhov, V. M.  
Inst : Moscow Agricultural Academy imeni K. A.  
Timiryazev.

Title : The Effectiveness of Various Methods of Autumn  
Soil Cultivation under the Conditions of Novo-  
Annenskiy Rayon in Stalingradskaya Oblast.

Orig Pub : Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva,  
1958, vyp. 32, 240-246

Abstract : No abstract.

Card : 1/1

GLUKHOV, V. M., Cand of Agric Sci -- (diss) "Comparative Study of the Method of Depth Working of the Soil Below the Frost Line in the Fight Against Pests in Semi-dried Areas of Stalingradskaya Oblast," Moscow, 1959, 20 pp (Moscow Agricultural Academy im Timiryazev) (KL, h-60, 12)

CHIZHEVSKIY, M.G., doktor sel'skokhozyaystvennykh nauk, prof.,  
GLUKHOV, Y.M., kand.sel'skokhozyaystvennykh nauk

Effectiveness of various methods of fall plowing in weed control.  
Izv. TSKhA no.6:62-67 '60. (MIRA 13:12)

1. Direktor Mitrofanovskogo optychnego polya (for Glukhov.  
(Plowing) (Weed control)

GENDIN, Gennadiy Semenovich; GLUKHOV, V.M., red.

[Stereophonic low-frequency amplifiers] Liubitel'skie stereofonicheskie usiliteli nizkoi chastoty. Moldova, Izd-vo "Energija," 1964. 30 p. (Larsovaja radiobiblioteka, no. 504) (LMA 175)

GLUKHOV, V.N.

Changes in the geography of the chemical industry of Italy in  
the postwar years. Izv. AN SSSR, Ser. geog. no.3:35-40 '64.  
(MIRA 17:6)  
I. Institut tekhniko-ekonomicheskikh issledovanii pri Komitete  
po khimii i Gosplane SSSR.

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CIA-RDP86-00513R000515420006-8

CONFIDENTIAL, EX-1, EX-2, EX-3.

"AMERICAN INVESTIGATIVE," OPEN TO THE PUBLIC WITHIN LAWFUL LIMITS,  
EX-1.

EX-2, EX-3.

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RECORDED, M.

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

AID P - 5224

Subject : USSR/Aeronautics - rocket armament

Card 1/l Pub. 135 - 10/26

Author : Glukhov, V. N., Eng.-Lt. Col., Candid. of tech. sci.

Title : Aviation rocket armament

Periodical : Vest. vozd. flota, 11, 51-55, N 1956

Abstract : A general review of winged missiles, of antiaircraft missiles and of guided aircraft rockets is given. One photo. The article is of informative value only.

Institution : None

Submitted : No date

GLUKHOV, V. Eng. Lt. Col. Cand. Tech. Sci.

"Air-to-Ground Guided Missiles," Sovets. Aviats., p. 3, 28 Feb 1957

Translation 1120029

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CIA-RDP86-00513R000515420006-8"

94-1-10/24

AUTHOR: Glukhov, V.N., Engineer.

TITLE: Gas Case-hardening and Hardening of Parts in Retort-type Tilting Furnaces (Gazovaya tsementatsiya i zakalka detalej v retortnykh oprokidyvayushichikhsya pechakh)

PERIODICAL: Promyshlennaya Energetika, 1958, Vollj, No.1,  
pp. 22 - 24 (USSR)

ABSTRACT: Case-hardening of large numbers of small parts is a complicated operation. The usual methods are difficult to apply under conditions of mass production, because they do not give sufficiently consistent results and the process is lengthy. For many years, the author's works has been manufacturing chains for industrial and agricultural machinery, and the chain parts have to be hardened. Various methods of carburising have been tried; that due to L.Ye. Semin, V.A. Rzhepetskiy and N.I. Chetyrin (described in Promyshlennaya Energetika, 1950, No.10) was in use until 1956. It became unsatisfactory when production was increased and had the following defects: the quality of the hardening was somewhat variable; the product was dirty and contaminated with remains of carburising material; and the presence of sulphur compounds and soda ash harmed the heat-resisting screw conveyors used for the equipment.

Card1/3 Retort-type tilting furnaces and an accelerated method of gas

94-1-10/24

Gas Case-hardening and Hardening of Parts in Retort-type Tilting Furnaces.

carburising and hardening of chain parts were developed in 1956. The furnace is illustrated in Fig.1; gas flows through the chamber on the horizontal axis. Behind the retort is a chamber to ensure mixing and uniform delivery of the gas into the operating zone, which is electrically heated. The whole central part of the furnace revolves on its horizontal axis two-and-a-half times a minute. The furnace is filled or emptied by tilting it bodily about an axis perpendicular to the axis of rotation of the working chamber - a simple operation. The continuous rotation of the retort ensures uniform contact between the gas and the parts being hardened. The furnace rating is 30 kW at 380 V single-phase; the standard load is 50 kg and the output is 600 kg per day. Generator gas produced from coal is used and has the following analysis: CO 27-28%; CO<sub>2</sub> 4.5%; H<sub>2</sub> 12 - 15%; CH<sub>4</sub> 1.5 - 2%; O<sub>2</sub> 0.2-0.5%; the remainder is nitrogen. This gas is washed and enriched with benzole and ammonia. The latter cleans the surface of the parts and facilitates diffusion of carbon into the surface layers, greatly accelerating the process. To harden the parts

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44-1-10/24

Gas Case-hardening and Hardening of Parts in Retort-type Tilting Furnaces

after carburising, they are unloaded from the furnace directly into a concrete trough of running water. In operation, the furnace is first heated to 920 - 950 °C; then gas is delivered to the furnace and is burned off as it leaves. The furnace is operated in this way for 5-6 hours, during which time the walls of the retort gather a deep coating of carbon and cease to absorb carbon from the gas. Carburising is then carried out under the following conditions: furnace temperature 920 - 950 °C; pressures at inlet to retort, (gas) 10 - 15 mm of water and (ammonia) 5-10 mm of water; a 50 kg load of parts is carburised to a depth of 0.6 mm in 1.5 - 2 hours. The parts are hardened immediately after carburising by opening the retort cover and tilting the furnace. As the retort turns, the load gradually comes out and is cooled in water at a temperature of 15 - 30 °C. Carburising 1 ton of product requires 30 kg of benzole and 22 kg of ammonia. The gas consumption is cheap. Three men and one chargehand operate 15 furnaces for a shift. The method saves electricity and is recommended for general use. There are 1 figure and 1 Russian reference.

Card 3/3  
AVAILABLE: Library of Congress

GLUKHOV, V.N.

A collective of communist labor is working here. Avtom., telem.  
i sviaz' 5 no.10:20-21 0 '61. (line 14:9)

1. Nachal'nik Kulundinskoy distantsii signalizatsii i svyazi  
Zapadno-Sibirskoy derogi.  
(Siberia, Western Railroads--Signaling}  
(Siberia, Western Railroads--Employees)

TSVETKOV, V.N., kand. tekhn. nauk, dotsent; GLUKHOV, V.N., ing.

Force of resistance of the contact friction in the fastening  
of leather shoe elements. Nauch. trudy MTILP 25:92-105 '62.  
(MIRA 16:9)

1. Katedra tekhnologii izdeliy iz kozhi Moskovskogo tekhnologicheskogo instituta lejkoy promyshlennosti.

TSVETKOV, V.N., kand. tekhn. nauk, dotsent; GLUKHOV, V.N., inzh.

Resistive force of the contact friction of chrome-vegetable  
and vegetable tanned leather for soles. Izv. vys. ucheb. zav.;  
(MIRA 16:10)  
tekhn. leg. prom. no.2:60-66 1/3.

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.  
Rekomendovana kafedroy tekhnologii i zideliy iz kozhi.

GLUKHOV, V.P.; SITNIKOVA, T.G.; FERBERG, M.B.

Selenium recovery from the granulated copper slime from industrial  
roasting furnaces. TSvet. met. 36 no.3:83-84 Mr '63. (MIRA 16:5)  
(Selenium—Metallurgy)

GORBUNOV, I.P.; GLUKHOV, V.P.; KOTLIKOV, K.G.; MOSKALEV, V.D.; SIPAYLOV,  
Yu.A.; SMYAN, N.K.; SHUTOV, M.I.; BYKOV, S.G., red.; KANTISKAYA,  
M.D., red.; BLAZHEIKOVA, G.I., tekhn.red.

[Training methods for members of civil air defense groups] Meto-  
dika podgotovki lichnogo sostava grupp samozashchity. Moscow,  
Izd-vo DOSAAF, 1959. 165 p. (MIRA 13:3)

1. Vsesoyuznoye dobrovol'noye obshchestvo sodeystviya armii,  
aviatsii i flotu.  
(Air defenses)

## Chukchee. 6

S/194/61/000/003/015/092  
D201/D304

9,2530

AUTHOR:

Glukhov, V.P.—

TITLE:

Universal design characteristics of a choke-coupled magnetic amplifier with d.c. output

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 8, 1961, 9, abstract 3 V50 (Tr. In-ta energ. i  
elektrotekhn. Akad. Latv.SSR, 1960, 9, 143-170)

TEXT: Universal design characteristics are given of a choke-coupled magnetic amplifier. The characteristics represent the dependence of the load current on a design criterion, the dependence of max. possible field intensity (in relative units) and the degree of magnetization of the magnetic amplifier by d.c. current at a constant attenuation factor of even harmonics. These universal characteristics make it possible to obtain the essential data for the magnetic amplifier and to analyze power and current gain, quality and reproducibility. 20 figures. 4 references. [Abstracter's note: Complete translation] ✓8

Card 1/1

GLUKHOV, Vasiliy Pavlovich, kand. tekhn. nauk; YAKUBAYTIS, Eduard Aleksandrovich [Jakubaitis, E.], doktor tekhn. nauk; SAVEL'YEVA, Ye., red.; FILADZE, Ye. [Piladze, E.], tekhn. red.

[Physical simulation of choke-type magnetic amplifiers]  
Fizicheskoe modelirovaniye drozsel'nykh magnitnykh usiliteli. Riga, Izd-vo Akad. nauk Latviiskoi SSR, 1961. 191 p.  
(NIRA 15:2)

1. Chlen-korrespondent Akademii nauk Latviyskoy SSR (for  
Yakubaytis).  
(Magnetic amplifiers) (Electric networks analyzers)

18 5160 1-1 84

S/156/01/000706270777-10  
E193/E283

AUTHORS: Glukhov, V.P., Sitarikova, T G and Fedotov, I.A

TITLE: Recovery of Selenium from Slimes by the LGI Method on  
Pilot Scale Plant

PERIODICAL: Tsvetnyye metally, 1961, No 1, pp 83-84

TEXT: A method, based on oxidizing roasting of granulated slimes followed by absorption of selenium anhydride by a separate layer of hot sodium carbonate has been developed at the Leningrad-skiy Gorniy Institut (Leningrad Mining Institute). The selenium-bearing compounds, obtained in this manner, can be processed either by precipitation of selenium from acidic solutions or by reduction and precipitation of selenium from selenide solutions. The main advantage of this process over the current method of roasting an intimate mixture of slime and sodium carbonate is that higher recovery of selenium is attained in fewer operations whereby the consumption of materials and electric power is reduced. In pilot plant scale trials, conducted in August and September 1960 at one of the Soviet Works, slimes from electrolytic refining of copper containing 6.0-8.0% Se, 1.0% Te, 19-20% Cu, 25% Ni, 1.5% Fe, 3.0% S

Card 1/4

S/136/61/000/001/008/010  
E193/E285

Recovery of Selenium from Slimes by the LGL Method on Pilot Scale  
Plant

and 25-30% H<sub>2</sub>O, were used as the raw material. The main constituents of the slimes were copper and nickel oxides 85% of nickel being present in the form of bunsenite NiO. Selenium was present as Ag<sub>2</sub>Se and partly in the form of selenides of the platinum metals. The roasting plant consisted of an air heater, a slimes roasting furnace, 2 (1st and 2nd) sodium carbonate furnaces for absorption of selenium, heat exchanger for gases, 2 vacuum pumps and a pan granulator for pelletizing the raw materials. After preliminary drying (in a vacuum drier) to a moisture content of 15-16%, the slimes were converted to granules 3-10 mm in diameter. Sodium carbonate was granulated in a similar manner after preliminary moistening to a moisture content of 30-33% and both materials (in the wet state) were then charged into the furnace. After all leaks had been sealed with asbestos tape, the vacuum pump and the roasting furnaces were switched on. At the same time the fire box of the heater was ignited and air pre heated to 600-700° C was fed into the furnace. In the new method the heat required for roasting the

Card 2/4

4/136/01/000/001/006/010  
E193/E283

Recovery of Selenium from Slimes by the LGI Method on Pilat Smelting Plant

charge is supplied mainly by air, the heating elements of the electric furnace serving only to compensate the heat losses. The operating temperature of 620-650°C is attained in 2-3 h. The charge is roasted in a stationary layer (no rabbling is employed), the duration of the process depending on the specific air consumption per unit weight of slime which in this particular case amounts to 5-6 m<sup>3</sup>/kg. With 800-900 kg (dry weight) of slime charged in the furnace, operating at 620-630°C the specific air consumption of 6 m<sup>3</sup>/kg of slime is sufficient to ensure that all selenium dioxide is distilled off from the charge, the selenium content in the gaseous residues being 0.01-0.1%. 90% of selenium present in the gaseous phase is absorbed by the first layer of sodium carbonate which after the completion of the process, contains 20-21% selenium. After roasting, the furnaces are cooled and discharged. The slime residue is subjected to further processing and the selenium-rich sodium carbonate (from the 1st furnace) is transferred to the selenium shop, where it is dissolved in water, after which selenium is precipitated (with sulphur dioxide) from the acidified solution.

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S/136/61/000/001/008/010  
E195/E283

Recovery of Selenium from Slimes by the LGI Method on Priest Stake Plant

Sodium carbonate from the 2nd furnace is used again until it becomes saturated with selenium. At present work is being completed on designing an industrial plant (expected to be in operation at the beginning of 1961) for recovery of selenium from slimes by the process described above.

Card 4/4

GLUKHOV, V. P.

Use of an analog computer in the determination of the characteristics  
of a magnetic amplifier. Vestis Latv ak no.2:79-88 '61.

1. Institut energetiki i elektrotekhniki AN Latviyskoy SSR.

S/136/62/000/001/001/00  
E021/E435

AUTHOR Glukhov, V.P.

TITLE Improving the technology of the treatment of residues  
of the electrolysis of nickel and copper

PERIODICAL Tsvetnyye metally no.1 1962, 28 31

TEXT Nickel residues, copper residues after removal of selenium and other semi-finished products containing metals of the platinum group are subjected to an oxidizing-sulphating roast at 550 to 600°C. During the roast, iridium (up to 11%) ruthenium (up to 5%) and rhodium (up to 3%) together with other nonferrous metals are converted to the acid-soluble state. The ash from the roast is leached with acid to give a solution containing 45 to 55 g/l Cu, 70 to 90 g/l Ni, 10 to 15 g/l H<sub>2</sub>SO<sub>4</sub>, 4 to 5 mg/l Rh, 4 to 6 mg/l Ru, 10 to 12 mg/l Ir, 0.2 to 0.3 mg/l Pt and 0.3 to 0.4 mg/l Pd. After filtration, this solution is electrolysed using insoluble lead anodes. Electrolytic decopperizing is carried out in two stages with a cathode current density of 175 A/m<sup>2</sup>. Three products are obtained - cathode copper, a dense cathode precipitate and the solution. The cathode copper is sent to copper smelters and the solution to nickel production. The third product is

Card 1/2

Improving the technology

S/136/62/000/001/001/00  
E021/E435

granulated and subjected to a reducing smelting operation. This produces secondary anodes and a slag. The secondary anodes are subjected to electrochemical dissolution with an anodic current density of 500 to 550 A/m<sup>2</sup>. The process gives three products: cathodic copper sponge nickel solution and an anodic residue. The last contains most of the metals of the platinum group. The extraction of this residue depends on current density, temperature and rate of circulation of the electrolyte. Continuous circulation of the electrolyte increases the extraction of the platinum group from 50-55 to 60-65%. A decrease in temperature from 85-95°C to 55-60°C lowers the cathodic reduction of the metal and especially ruthenium. The existing method of extraction has two disadvantages. The cycle of operation takes 15 to 16 days and the extraction of iridium, ruthenium and rhodium is low. These disadvantages must be overcome. There are 1 table and 3 Soviet bloc references.

Card 2/2

BUKHOV, V.P., inzh.

Board for designing choke-type magnetic amplifiers. Vest.  
elektroprom. 32 no.6:51-55 Je '61. (MIRA 16:7)  
(Magnetic amplifiers)

S/196/62/000/024/014/014  
E194/E155

AUTHOR: Glukhov, V.P.

TITLE: The theoretical basis of physical modelling of a three-phase magnetic amplifier

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no. 24, 1962, 6, abstract 24 K 25. (Dokl. 4-y Mezhevuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otrazlyakh tekhn. Sb. 4 (Reports of the 4th Intercollegiate conference on the Application of Physical and Mathematical Modelling in Various Branches of Technology. Collection 4). M., 1962, 221-235)

TEXT: Because of the need to linearise the non-linear differential equations which characterise electromagnetic processes in three-phase magnetic amplifiers, the solutions obtained are inaccurate, cumbersome, and only provide approximate calculations. A more accurate design method is proposed, using a model similar to the original being investigated or designed. A three-phase amplifier with internal feedback and a.c. output is used as an

Card 1/2

The theoretical basis of physical ... S/196/62/000/024/014/014  
E194/E155

example. To apply the theory of similarity, equations of field intensity, of induction in the cores, and of the a.c. circuits and control circuits are derived. The following assumptions are made in the derivation: there are no losses in the steel or leakage between winding turns, the induction is uniformly distributed over the cross-section of the magnetic material, the actual core is replaced by an equivalent core of uniform cross-section throughout the length of the magnetic lines of force and of the same magnetisation curve as the actual core; the rectifiers are assumed ideal. The conditions of similarity of the electromagnetic processes in the original and in the model are determined by the method of integral analogues. The reliability of the proposed method was checked experimentally, by making a model three-phase magnetic amplifier with a core of molybdenum permalloy H79M4 (N79M4). The original was an amplifier with a core of commercial steel 342 (E42). The alternating current wave shape and the shape of the output characteristics of the magnetic amplifier were checked. The divergence did not exceed 10%.

Card 2/2      [Abstractor's note: Complete translation.]

GLUKHOV, V.; SHMIDT, R.[Smidts, R.]

Determination of the output characteristics of a compounding  
three-winding transformer. Izv. AN Latv. SSR no.10:75-86 '62.  
(MIRA 16:1)

1. Institut energetiki AN Latvijas SSR.

(Electric transformers)

CHUKOV, V.P., kand.tekhn.nauk; CHMIDY, E.V., kand.tekhn.nauk

Choice of the parameters of a compounded controller for generators with variable angular velocity. Vest. elektro prom. 33 no 11:50-55 N '62.  
(MIRA 15:11)  
(Electric generators)

GLUKHOV, V.P., kand. tekhn. nauk; SHMILT, R.K., kand. tekhn. nauk

Physical modeling and methods for calculating a ferro-resonant network. Vest. elektroprom. 34 no.3:64-67 Mr '63. (MIRA 16:8)

(Electric networks) (Magnetic circuits)

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

GLUKHOV, V.P., kand.tekhn.nauk; OBUSHEV, G.K., inzh.

Designing of phase compounding systems using physical modeling  
results. Elektrotehnika 35 no.12:24-28 D 1964.

(MIRA 18:4)

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

L 20756-65 EWT(1)/EEG(m)/SPR/EWA(h) Pg-4/Pq-4/Pn-4/Feb/Pl-L JKZ/TK/  
JN/01

ACCESSION NR: AP5015321

UR/0286/65/000/009/0076/0077  
681.121.46

AUTHOR: Sarkisyan, E. A.; Murkey, V. V.; Vinogradov, V. A.; Zharkov, Yu. L.;  
Bektimorov, N. S.; Smirnov, A. G.; Glibkov, V. P.

TITLE: A compensation turbine flowmeter. Class 42, No. 170704

SOURCE: Byulleten' izobreteniij i tovarnykh znakov, no. 9, 1965, 76-77

TOPIC TAGS: flowmeter, flow measurement

ABSTRACT: This Author's Certificate introduces a compensation turbine flowmeter which contains two independent turbines rotating about a common axis on roller bearings and a contactless induction transducer which converts relative angular velocity into an electric signal. The device is designed so that the form of the stream is changed very little during measurement of the rate of flow. The sensing element is made in the form of two small turbines. One of these turbines has straight blades and measures the angular velocity of the stream, while the other measures the absolute velocity. The sensing element also contains an induction tachogenerator with a geared inductor which is mounted on the turbine discs.

Card 1/3

L 50736-65  
ACCESSION NR: AP5015321

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po oboronnej tekhnike SSSR  
(Organization of the State Committee for Defense Technology SSSR)

SUBMITTED: 29Jun64

ENCL: 01

SUE CODE: IE, PR

NO REF SOV: 000

OTHER: 000

Card 2/2

648.73

51  
B

AUTHOR: Sokhor, M. I.; Glukhov, V. P.

TITLE: Silicon carbide with a wurtzite structure

SOURCE: Kristallografiya, v. 10, no. 3, 1965, 418-421

TOPIC TAGS: wurtzite, silicon carbide, crystal structures

ABSTRACT: 2H-SiC was detected during the synthesis of silicon nitride. A tablet pressed from silicon powder (95% Si) was placed on a graphite base in the carbon tube of a furnace where it was heat treated in a nitrogen jet as follows:

Card 1/2

L 61511-65

ACCESSION NR: AP5013722

that the deposit was fine crystalline silicon carbide. Other phase lines were not detected. A detailed analysis showed that the deposit was a rare polytype of silicon carbide with a structure similar to the one reported by Adaskey and

Card 22

RODYAKIN, V.V.; GLUKHOV, V.P.; USTINOV, V.S.; AMUTZUMOV, E.A.; PETRUN'KO,  
A.N.; TUSH'TIKOVA, Z.I.; KISELEV, O.G.

The dressing of a block of sponge titanium and completing  
marketable batches. TSvet. met. 34 no. 12-67-70 D 165  
(MIREA 1971)

ISAKOV, Petr Kuz'mich; KAZNEVSKIY, Viktor Pavlovich; LUTSKIY, Valeriy Konstantinovich; RAPOOVT, Tamara Lyudvigovna; DOBRONRAVOV, V.V., prof., retsenzent; FOMIN, N.A., prof., retsenzent; MERKULOV, I.A., retsenzent; IL'YASHENKO, S.M., kand.teckhn. nauk, retsenzent; VARVAROV, N.A., retsenzent; PANTELEYEV, V.G., retsenzent; GLUKHOV, V.V., retsenzent; GORODENSKIY, L.M., red.; FURMAN, G.V., tekred.

[Artificial earth satellites; 100 questions and answers]  
Iskusstvennye sputniki zemli; 100 voprosov i otvetov. Pod red. V.P.Kaznevskogo. Moskva, Obshchestvo po rasprostraneniu polit. i nauchn.znanii, 1959. 95 p. (MIRA 12:6)  
(Artificial satellites)

GLUKHOV, V.V., fel'dsher

Model of a drinking water fountain. Fel'd. i akush. no.9:38 S '54.  
(MLRA 7:11)

1. Romanovskiy meditsinskiy punkt Leningradskoy oblasti.  
(WATER SUPPLY  
drinking fountain appar.)

GLUKHOV, J. V.

GLUKHOV, V.V., fel'dsher

Treatment of furuncles with penicillin block. Fel'd. i akush. no.1:  
54 Ja '55. (MIRA 8:3)

1. Romanovskiy meditsinskiy punkt Leningradskoy oblasti.  
(PENICILLIN, therapeutic use,  
furunculosis)  
(FURUNCULOSIS, therapy,  
penicillin)

MINEYEV, P.A., inzh.; GUREVICH, Ye.S., inzh.; SHINKA, V.Ia., inzh.;  
BUKHTER, Ye.Z., inzh.; SHCHERBAKOV, V.S., inzh.; IL'INA,  
N.I., inzh.; GLUKHOV, V.V., inzh.; GOGOLINA, T.V., inzh.;  
KROTKOV, V.N., inzh.; STASHIN, Ye.A., inzh.; KUSHNER, A.P.,  
Inzh.; YERMAKOVA, P.L., inzh.; PAVLOV, R.V., inzh., red.;  
KASPEROVICH, N.S., ~~red.~~ izd-va; UVAROVA, A., tekhn. red.

[Catalog of refrigeration equipment] Katalog kholodil'nogo  
oborudovaniia. Moskva, Mashgiz, 1963. 186 p.

(MIRA 16:7)

1. Russia (1923- U.S.S.R.) TSentral'noye konstruktorskoye  
byuro kholodil'nogo mashinostroyeniya. 2. TSentral'noye konstruk-  
torskoye byuro kholodil'nogo mashinostroyeniya (for all except  
Kasperovich, Uvarova).

(Refrigeration and refrigerating machinery--Catalogs)

automation

PURPOSE AND COVERAGE: This is the fourth volume of the handbook: "Instrument manufacture and automatic control devices." It consists of two parts. Part one presents the fundamentals and definitions of the theory of automatic control, modern methods of mathematical analysis and synthesis of linear and nonlinear systems, and the methods of their dynamic computation. The second part of

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L 50185-65  
AM5015052

the volume contains descriptions of typical electrically, pneu-  
matically, and hydraulically operated controllers, actuating  
mechanisms, and control systems. It also gives basic technical  
characteristics of electronic computational techniques applied  
in automation, and elucidates problems of the organisation and  
planning of the most widely used systems of automatic control.

TABLE OF CONTENTS [Abridged]:

Part I. Theory and methods of designing automatic control systems	
1.	Fundamental principles, structure of systems, and a definition of the theory of automatic control (Ye. G. Izvo'skiy, L. G. Novogranova, and V. V. Glukhov) -- 1-18
2.	Objects of automatic control (Yu. Ye. Ruzskiy) --- 23-54
3.	Elements of automatic controllers -- 58-132
4.	Automatic controllers (Yu. Ye. Ruzskiy) -- 145-176
5.	Methods for calculating the dynamics and the statistics of SAR (system of automatic regulation), the SAC (system of automatic

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L 50185-65  
AM5015052

6. Nonlinear characteristics and methods of designing SAR and servomechanisms -- 230-294
7. Static linearization (G. M. Ulanov, and K. A. Pukkov) -- 294-344
8. Variational methods and the theory of accumulative errors -- 344-361
9. Methods for experimental testing of automatic control systems -- 361-387
10. Problems of the theory of automatic control -- 387-419
11. Principles of designing systems of complex automation by

Part II. The means of automation

applying control computers (A. S. Uskov) -- 419-437

12. Classification of the means of automation (M. Ya. Rakovskiy) -- 437-443
13. Electrical and electronic controllers (V. A. Bodner) -- 443-497
14. Means for automatic regulation and control of electrical drives (T. Z. Portnoy) -- 497-525
15. Electronic computer technology for automatic control and regulation (B. M. Yakubson) -- 525-575
16. Pneumatic controllers and schemes of typical pneumatic SAR (V. S. Prusenko) -- 575-618

L 50185-65

AM5015052

17. Hydraulic and electrical-hydraulic means of automation and auxiliary devices -- 618-645  
18. Designing systems for control and automatic regulation  
(A. B. Radov) -- 645-694

SUB CODE: IE SUBMITTED: 05Feb65 NO REF Sov: 344

OTHER: 051

*me*  
Card 4/4

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

AMERICAN, U.S., AND CANADIAN EMBASSIES IN LIMA

LETTER FROM AMERICAN EMBASSY TO THE U.S. DEPARTMENT OF STATE, NOVEMBER 13, 1973  
RE: TELCO

AMERICAN EMBASSY TO THE U.S. DEPARTMENT OF STATE, NOVEMBER 13, 1973.

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

SPYKIN, V. L., JR.

Dissertation: "Investigation of Lectin-Lysosomal Interactions in Whitefish Liver Cells," Advisor: Dr. J. C. P. Verhaagen, Department of Biochemistry, U.S. Fish and Wildlife Service, Biological Laboratory, Anchorage, Alaska.

Approved for Release

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

IGONIN, Leonid Andreyevich, kand. khim. nauk; GLUKHOV, Yevgeniy  
Yemel'yanovich, kand. tekhn.nauk; BRYANTSEVA, V.P., inzh.  
red.

[DVF-3 Multipurpose machine for testing the mechanical properties of plastic materials] Universal'naya mashina DVF-3  
dlya ispytanii mekhanicheskikh svoistv plastmass. Moskva,  
Filial Vses. in-ta nauchn. i tekhn. informatsii, 1956. 11 p.  
(Pribory i stendy. Tema 2. No.P-56-518) (MIRA 16:3)  
(Plastics--Testing)

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

CHUKHOV, Ye.Ye.

Electromagnetically operated valves for liquids under high pressure.  
Khim.prom. no.4 227-231 Je '57. (MLRA 16:9)  
(Val'vny)

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

AB-3-3-9/11

AUTHORS: I. M. Zhdanov, V. V. Kostylev, N. N. Kuznetsov, and Shestopalov,  
A. A. Tikhonov

TITLE: On the Preparation of Compacted Thermoplastic Materials (Izgotovleniye stamkurnykh obraztsov iz termoreaktivnykh pressmaterialov)

ARTICLE NUMBER: 100-100-100-100-100-100

ABSTRACT: It was determined that it is impossible in physical and  
mechanical properties to obtain a compacted material in tests of standard  
specimens, material from which is used in a wide lot of materials, de-  
pend on the pressure over which the material hardens. The  
article gives a detailed description of an experiment using  
specimens of "K-100" press-powder, from which it was concluded  
that present powder technology does not assure a constant  
pressure throughout the hardening period. A press produces  
the set pressure upon the mold in the press-mold only until  
the upper movable part of the press-mold comes down to the  
support pins, and on account of the elasticity of the investigated  
material, rapidly, from that moment on, distribution of the mass  
changes, especially at the periphery, so that no account for the  
different properties of the compacted material according to density  
must be required, in the preparation of specimens must be start-

Card 2, 4

Making Standard Specimens of Thermoplastic Compressible Materials

defined and the section "Making specimens" in technical specifications for plastics, must be amended by the addition of recommendations for the quantities of material to be taken for specimen and the thickness of the mold. The thickness of standard specimen should be reduced to 1.6 mm (from the accepted 16 mm). There are diagrams, tables and drawings.

ASSOCIATION: Naukno-issledovatel'skiy i proektirovaniy institut plasticheskikh mass (Scientific research and project Institute for plastics)

AVAILABLE: Library or on sale

Jurn. /: 1. Plastics-Pressing-Standards 2. Plastics-Molding-Standards  
3. Standardization-USSR

GLUKHOV, Ye.Ye.

Quantitative evaluation of the deformability of vitrified high polymers. Vysokom. soed. 1 no.6:819-824 Je '59. (MIRA 12:10)

l.Nauchno-issledovatel'skiy i proyektnyy institut plasticheskikh mass.

(Strains and stresses)  
(Polymers)

15.5570

AUTHORS: Glinkov, Ye. I., Gorina, A. A., and G. A. [illegible]

TITLE: Stress-strain properties of [illegible]

PERIODICAL: Vysokomolekulyarnyye soedineniya, No. 10, 1970, p. 48-45

TYPE: The author discusses equations of  $\epsilon = \epsilon_0 + [\tau - \tau_0]^{1/m}$  and  $\epsilon = \epsilon_0 + \tau^{1/m}$  which are used to calculate the stress-strain curve. It is shown that  $\epsilon_0 + [\epsilon_0 + \epsilon_1]/\epsilon_0$  is a constant for all values of  $\tau$ . It is established that only the value of  $\epsilon_0$  for the particular material and temperature need be known to calculate the stress at any constant stress. For a quantitative examination it is necessary to determine the value of  $\epsilon_0$  from the equation of state. The author gives the equations for two-dimensional problems. It is further explained that the theory can be extended to three-dimensional problems.  $\times$

CONT'D

Information Properties of Polymers

82077

Information concerning the properties of polymers  
that is presented here consists of two parts.  
The first part concerns some general information  
of value in obtaining information on the properties  
of polymers. The second part concerns the properties  
of the thermoplastic polymer polyvinyl chloride.  
A letter from Marcellus F. Stroh dated January 20, 1942,  
and addressed to the Department of Defense, Washington,  
D. C., contains this information. The letter is reproduced  
gives the following properties of polyvinyl chloride:  
Inability to polymerize vinyl chloride monomer  
and chloroform monomer. Solubility in benzene,  
ether, and acetone. Insoluble in water, alcohol,  
ether, benzene, chloroform, and carbon tetrachloride.  
Solubility in dilute acids and alkalis. Insoluble  
in concentrated sulfuric acid. Insoluble in  
nitrobenzene, nitroethane, and nitropropane.

Page 73

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8

Department of Defense - Defense Intelligence Agency

32079

Intelligence Support Center  
3500 Defense Pentagon

ATTACHMENT: Strategic Assessment of Soviet Forces in Central Europe  
Current Status and Prospects

1980-1981

3

DOE 373

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420006-8"

5/10/86  
P.O. 106

AUTHORS: Glukhov, Ye. Ye., Klaev, S. I.  
TITLE: Problems of Rheology in Processing Plastic and Finished Products

PERIODICAL: Plasticheskiye massy, V. 1, No. 1, pp. 22 - 29

TEXT: On the basis of publications, the authors give a general survey of rheological problems linked with extrusion and casting of plastics. They find that the flow properties of polymers have so far not been clearly defined, and suggest the following ways of solving rheological problems: 1) Determination of flow properties of polymers should make it possible to find the optimum conditions for processing, as well as to calculate extruders and casting machines. 2) The character of the flow profile chiefly depends on the ratio of forces of internal and external friction, as well as on the relaxation properties. 3) The properties of plastic exerting an effect upon the flow can be determined by means of a capillary viscosimeter. 4) Apart from the law governing flow, the authors discuss homogenization, and the possibility of a thermokinetic method.

Card 1/2

Problems of Rheology in Processing Plastic  
to Finished Products

S/10 /61/100/3 1/17/88  
R-4, R-64

should be considered when solving technical problems. "The problem of material with certain properties is only possible when the results of a study of the rheological behavior are combined with those obtained from a study of structural and mechanical properties. I. F. Karapet'yan, V. V. Luk'yanyov, V. V. Lapshin, P. M. Kozlik, R. V. Ternovskiy, and M. M. Mayzel' are mentioned from among Soviet researchers. References: Note: The authors do not refer to their article 'Plastic rheology' and 10 references: 11 Soviet, 4 US, and 1 British."

Card 2/2

21030

IS 8570

S/100/61/337/33/3/20  
B101/3207

AUTHORS: Glukhov, Ye. Ye., Shelion, A. V.

TITLE: Temperature dependence of the deformation behavior of polymers

PERIODICAL: Vysockomolekulyarnyye sozidimeniya, v. 3, no. 3, 1961, p. 3-6

TEXT. The deformation occurring as a result of shear is defined as 1) bending deformation, 2) flow deformation and 3) hardening deformation. This paper deals with hardening deformation  $\epsilon$  at short-time stress of vitrified polymers. The following equation is written down for constant temperature:  $\epsilon = \epsilon_0 \ln (\tau + \tau_0)/\tau_0$  (1).  $\tau_0$  is the constant denoting the stability of structure to short-time mechanical action. It depends on stress and temperature. The dependence of the deformation coefficient  $\epsilon_0$  is defined by  $\beta = \epsilon_0 \ln (\epsilon_0 + \epsilon_1)/\epsilon_1$  (2), where  $\epsilon_1$  is a constant expressing the regularity of polymer packing, and for  $\beta$  the following holds:  $1/T = (1/T_0) \ln(\epsilon_0/\epsilon_1)$  (3).  $T_0$  and  $\epsilon_1$  are constants of the equilibrium state of the polymer and are independent of experimental conditions. By means of a perfector apparatus inscribed in Ref. 6 (Ye. Ye. Glukhov, Inventor Card 1/5)

Temperature dependence

21138  
S/1 C/61/003/F03/013/011  
B1C1/2207

dynamical behavior of deformational viscoelastic polymers (in particular the investigation of the deformation behavior of plasticized), VINITI, USSR, SSSR, Moscow, 1971. The deformation was measured as a function of time in 1) black polystyrene; 2) polypropylene, and 3) plasticized polyvinyl chloride. The data for polystyrene, whose deformation could only be measured at higher temperatures, are given in Table 1. Table 2 shows the data for polypropylene, and Table 3 for polyvinyl chloride (PVC) treated in a different manner. For all three polymers a linear function between  $\ln(\tau/\tau_0)$  and  $1/T$  was found to exist, so that the applicability of the equations (1), (2), and (3) was proven. The effect of the constants  $T_0$  and  $\sigma_0$  is described by the following equations:  $\varepsilon = \varepsilon_0(e^n - 1)\ln(\tau + \tau_0)/\tau_0$  (1), where

$n = (\sigma/\sigma_0) \exp(-T_0/T)$  may also be expressed by  $\exp(-\alpha/RT)$ , where  $\alpha$  is the activation energy of the creep process.  $T_0 = \bar{h}/R = u/c$  is found. The following is concluded: 1) The ratio  $T_0/T$  expresses the capability of the polymer of retaining its shape. 2) The greater  $\sigma_0$ , the lesser is the influence exerted by  $T_0/T = \text{const}$ .  $\sigma_0$  expresses therefore the hindering capability of the polymer. 3)  $T_0$  is related to the kinematics of the normal motion,  $\sigma_0$  with the external effect. Both constants determine the type.

Carl E/F

21138  
S/190/61/CC3/CC4/013/C14  
B101/3707

## Temperature dependence ...

mal stability of the polymer. For the latter as well as for frost resistance, the following equation is written down:  $T = T_0 / \ln(\sigma_e / \sigma_0)$  (6). The

$\sigma_0$  values for PVC which are high as compared to other polymers indicate irregular packing, which renders the production of regular products from this substance difficult. There are 4 figures, 4 tables, and 7 Soviet-scientific references.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass  
(Scientific Research Institute of Plastics)

SUBMITTED: August 29, 1960

Температура испытания, °C	$\sigma_0, \text{ кг/см}^2$	$\epsilon_e \cdot 10^3$	$\frac{\sigma}{\sigma_0}$	$\ln \frac{\sigma}{\sigma_0}$	$\Delta \ln \frac{\sigma}{\sigma_0}$
<i>Table 1</i>					
69,3	76,5	0,232	-41	-3,1	
64,3	34,5	0,079	-36	15,0	
79	32,0	0,110	-45	6,0	
75	22,0	0,080	-48	5,0	

Card 3/5

3626  
5/28/62/1 C/000/045/-75  
3158/3161

214200

AUTHOR: Klimov, E.

TITLE: Use of chromatography. Report 13. Chromatography of highly radioactive gases

PUBLISHER: Vsesoyuznyj zhurnal khimii, no. 1, 1959, 30, abstract  
1965 (St. "Gaz, khromatografiya", ..., Izdat. lit., 1961,  
pp. 1-2)

TEXT: When gas chromatography is used to separate mixtures of highly radioactive gases with  $\beta$ -radiation, the absorption of the  $\beta$ -particles by the column material causes an increase in the temperature of the effluent. The theory of the processes that occur is worked out on the basis of a material balance equation, assuming the absence of radioactive daughter products, a constant velocity of heat liberation, and absence of heat losses. Expressions are derived for the volume of retention, the peak forms and maxima, the mean band width and column volume necessary for equilibrium. The bands are narrowed as a result of increase in the column temperature under the effect of the  $\beta$ -radiation. Taking as an example the separation of

Card 1/2

Theory of chromatographic...<sup>1</sup>

5/06/62/030, 5/06/52/375

J150, J101

Kr and Kr radioactive isotopes it is shown that, because of this narrowing, radioactive gases are more effectively separated than inertive gases. Complete separation of radioactive gases requires that the ratio of their activity to the velocity of the carrier gas should not exceed a certain definite value; therefore, high carrier gas velocities should be applied for highly radioactive gases. (For Report no. 11, see REBrahim, no. 3, 1 (p. 738) [Abstracter's note: Complete translation.]

Card 2/2

S/191/61/000/003/007/015  
B124/B203

AUTHORS: Klaz, S I . Glukhov, Ye Ye

TITLE: Rheological characteristics of high-density polyethylene

PERIODICAL: Plasticheskiye massy no 3, '96, 28-31

TEXT: The authors studied the effect of technological parameters (temperature, pressure) on the rheological characteristics of high-density polyethylene; respective tests were made with flow and with pure shear of the melt through a spinneret. A device was designed for this purpose, the principal part of which - a rotation viscosimeter - was based on the same principle as I F Kanavets platiometer (Ref. 2. Opredeleniya tekhnologicheskikh kharakteristik termoreaktivnykh plastikov (Determination of the technological characteristics of thermo-setting plastics). Izd AN SSSR. Institut tekhnico-ekonomich. inform (Institute of Technical and Economical Information). 1956). This device permits the measurement of internal friction (shear stress) and of the flow through openings at different velocities, temperatures, and pressures. The construction of the device has been thoroughly described

Card 1/3

Rheological characteristics of

S/19/61/000/003/007/015  
B'24/B203

in Ref. 3 (Ye Ye Glukhov Ustanovka dlya reologicheskikh issledovanii (Device for rheological studies), Izd GNTK RSFSR, '960). The behavior of Soviet made and imported high-density polyethylene was examined at a shear of  $3 \cdot 864 \text{ sec}^{-1}$  occurring in usual extruders. The tests were made at temperatures from melting point up to maximum working temperature. The authors determined the dependence of the shear stress  $\sigma$  on the rate of shear  $\dot{\epsilon}$  (pressure  $P$ ) and the time  $t$  of the action on the material; they tested a lot of ПЭ-500 (PE-500) high-density polyethylene. Fig. 1 shows the dependence of shear stress and temperature of the mass on the time of action at constant rate of shear and pressure ( $P = 60 \text{ kg/cm}^2$ ). The ratio  $\sigma_1/\sigma_2$  ( $\sigma_1$  is the maximum value of  $\sigma$ , and  $\sigma_2$  is the value to which  $\sigma$  drops; after this dropping it decreases only gradually on heating) reaches at a rate of shear a value near 2 which remains almost constant on a further increase in shear stress. The values of the constant  $A$  from equation  $\sigma = A\dot{\epsilon}^n$  (where  $n \approx 1$  at  $\dot{\epsilon} < 100 \text{ sec}^{-1}$  and  $n \approx 2.5$  at  $\dot{\epsilon} > 100 \text{ sec}^{-1}$ ) for the flow of non-Newtonian liquids are given in a table. Fig. 4 shows the dependence  $\log \sigma$  on  $t/T$  at constant rate of shear; on

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Rheological characteristics of...

S/191/61/CSC/103/017/015  
B124/B2CJ

the basis thereof, the equation  $\sigma_1 = B_1 e^{u/RT}$  is set up, where  $u$  is the activation energy of the flow,  $R=2$  is the universal gas constant, and  $B_1$  is a coefficient having the dimension of stress. Fig. 5 shows the dependence of the extrusion rate  $v$  (m/sec) on pressure ( $\text{kg}/\text{cm}^2$ ). For the temperature dependence of pressure at constant extrusion rate, the equation  $P = B_2 e^{u/RT}$  was obtained, where  $B_2$  is a coefficient of the dimension of pressure. The authors thank Academician P. A. Rebinder for a discussion. There are 6 figures, 1 table, and 8 references: 6 Soviet-bloc and 2 non-Soviet-bloc. The two references to English language publications read as follows: W. R. Hogg, Plastics, no. 2, 69 (1959); R. L. Ballman, Tevis Shusman, H. L. Toor, Mod. Plast. 37, no. 2, 115 (1959).

Legend to Fig.1: Dependence of shear stress and temperature of PE-500 polyethylene on the rate of shear and time at a pressure  $P = 60 \text{ kg}/\text{cm}^2$ .

Rate of shear  $\dot{\epsilon}$ ,  $\text{sec}^{-1}$ : (1) 1695; (2) 1017; (3) 678; (4) 340; (5) 170.  
(a) Shear stress,  $\text{kg}/\text{cm}^2$ , (b) temperature of the mass, (c) time, sec,  
(d) time, min.

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GLUKHOV, Ye.Ye.; KLAZ, S.I.

Rheological characteristics of low pressure polyethylene and the  
evaluation of its fluidity. (Elastomassy o 5:30-3) '62.  
(MIRA 15:4)  
(Polyethylene) (Rheology)

SHAPENKOV, M.P.; GLUKHOV, Ye.Ye.

Air offtakes in molds for casting (about N.B.Vidof and S.M.Rips' article in the journal "Plasticheskie massy" no.3, 1961). Plasticheskie massy no.3 04-05 '62. (M.RA 15:0) (Plastics--Molding) (Vidof, N.B.) (Rip, S.M.)

S/191/62/000/011/007/019  
B101/B166

AUTHORS: Klaz, S. I., Glukhov, Ye. Ye.  
TITLE: Flow of cable plastics based on polyvinyl chloride  
PERIODICAL: Plasticheskiye massy, no. 11, 1962, 26-30

TEXT: The rheological properties of plasticized PVC cable plastics containing 45 parts by weight of plasticizer per 100 parts of PVC were studied to obtain data for calculating parameters of extruders. The tests were made under conditions of uniform thrust, at thrust velocities  $\dot{z}$  of  $10 - 2000 \text{ sec}^{-1}$ . At  $\dot{z} = 1695 \text{ cm}^{-1}$ ,  $p = 60 \text{ kg/cm}^2$ , a shear stress  $\sigma_1$  ( $\sim 4 \text{ kg/cm}^2$ ) was observed within the first two seconds dropping to  $\sigma_2$  ( $\sim 1 \text{ kg/cm}^2$ ) by the fifth second.  $\sigma_1$  is a measure for the structural strength,  $\sigma_2$  is the stress required to maintain the flow after destruction of the structure. As  $\sigma_1$  with high  $\dot{z}$  may reach three times the value of  $\sigma_2$  it is dangerous to start a full extruder operating. An empirical equation was found:  $\sigma_p = \sigma + B(p - 60)$ , where  $\sigma_p$  is  $\sigma_1$  or  $\sigma_2$  at a given pressure  $p$ ;  $\sigma$  is  $\sigma_1$  or  $\sigma_2$  at  $p = 60 \text{ kg/cm}^2$ ;  $B = 0.0068$  for calculating  $\sigma_1$ ,

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Flow of cable plastics based ...

S/191/62/000/C11/C07/019  
B101/B:66

$B = 0.005$  for calculating  $\sigma_2$ . With increasing  $\dot{\epsilon}$ ,  $\sigma_2$  rises to a constant value; this limit is higher when there is less or no plasticizer.  
 $\sigma_1 = A\dot{\epsilon}^n$ , where  $n \approx 4$  for  $\sigma_1$  irrespective of the temperature;  $n \cdot 4$  for  $\sigma_2$ ; with increasing temperature,  $n$  approaches infinite values. This phenomena is explained by a "chemical flow" due to rupture of chemical bonds. For  $\sigma_1/\sigma_2$  versus  $\dot{\epsilon}$ , three families of nearly coinciding curves were obtained for the temperature ranges  $140$ - $160^\circ\text{C}$ ,  $170$ - $190^\circ\text{C}$ , and  $> 190^\circ\text{C}$ , which suggests specific structural changes within each of these temperature ranges.  $\sigma_1$  versus  $1/T$  indicates the same three temperature ranges whereas  $\sigma_2$  versus  $1/T$  forms a fan of straight lines widening in the direction of falling temperatures. The discharge velocity  $v$ , m/sec, from spinnerets is defined by  $v = Ap^n$ , where  $n = 5$  for high  $v$  ( $v = 0.2$  m/sec), and  $n = 1.43$  for low  $v$  ( $v = 0.02$  m/sec) and low  $p$ . These two intersecting straight lines correspond to two activation energies:  $U = 4100$  cal/mole for high  $v$  and  $p$ , and  $U = 12,700$  cal/mole for low  $v$  and  $p$ . Practical conclusion: an increase in the rotational speed of the extruder screw increases the extrusion rate without increase of pressure. Hard PVC is extruded more easily if previously plasticized by mechanical working. There are 6 figures and 1 table.

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GLUKHOV YE YE  
AID Nr. 970-13 17 May

DESIGNS OF EXTRUSION DIES FOR PLASTICS (USSR)

Glukhov, Ye. Ye., and G. A. Polyakova. Plasticheskiye massy, no. 4, 1963,  
S/191/63/000/004/011/015  
50-54.

To obtain extruded parts of high quality, the correct relation between the extrusion rate, tool geometry, and pressure of the material before the die should be maintained, taking into account the producibility of desired cross sectional shapes and the density of extruded parts. Since different material velocities upon extrusion from the various sections of the die would cause shape distortions and variations in physical and mechanical properties, the author devised equations governing the extrusion process. Five examples are given for which the following parameters were determined: 1) the bearing-part lengths of two dies with different diameters which provide for the same extrusion velocity; 2) the ratio of bearing-part lengths of two sections of a

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AID Nr. 970-13 17 May

DESIGNS OF EXTRUSION DIES [Cont'd]

8/191/63/000/004/011/015

slit die with different widths which provide for the same extrusion velocity from wide and narrow die sections; 3) the ratio of the bearing-part lengths of a slit die in the middle of the slit and at the edges which provide for the same extrusion velocity; 4) the ratio of bearing-part lengths of a T-shape die which provide for the same extrusion velocity; and 5) the ratio of the bearing-part lengths for two-tube extrusion dies which provide for the same pressure drop at the same productivity.

[SS]

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GLUKHOV, Ye.Ye.

On E.N. Demin's book "Mechanization and automation of the molding  
of articles from plastics." Plast. massy no.8:74-75 '63.  
(MIRA 16:8)

(Molding machines)  
(Demin, E.N.)

Chumakov, V. N., et al. In: *Vysokomol. Soedin.*, 1977, 19, No. 1.

Properties of polymers. Rheological properties of poly(MP  
+ allyl acrylate) at deformation rates,  $\dot{\gamma}$ , from  $10^{-3}$  to  $10^2$  sec $^{-1}$ .  
1543-1548. 0-163.

(MTRB 1717)

1. Mechanical properties of poly(MP + allyl acrylate).

ACCESSION NR: AP4012193

S/0191/64/000/002/0056/0061

AUTHOR: Glukhov, Ye. Ye.

TITLE: The problem of mechanical properties of plastics

SOURCE: Plasticheskiye massy\*, no. 2, 1964, 56-61

TOPIC TAGS: mechanical properties, plastics, stability, deformation properties, creep, heat-mechanical curve, short-duration curve, stress relaxation, clear shear, heat resistance, frost resistance, hardenability

ABSTRACT: Many methods used in testing plastics are borrowed from methods of mechanical testing of metals; but the properties of plastics differ significantly from those of metal and the results of such tests are not accurate. Even the methods specifically developed for plastics are lacking because clearly formulated relationships among mechanical properties of plastics have not been discerned. A high melting point of 1000 C and over is characteristic of a majority of metals and operating conditions for metal parts usually involve much lower temperatures (-50 +100 C). The yield temperature of plastic

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ACCESSION NR: A14012193

(100-400 C) is much lower than the melting point of metals, but the operating conditions of a majority of plastic products is at the same temperature range as for metals. Mechanical properties differ in metals and plastics when they are examined in different temperature zones. Primarily, this difference concerns the character of dependence of stability and deformation properties on time and temperature. For metal, these dependences are low and are usually not considered, but for plastic they are quite significant and should be calculated. Therefore, mechanical testing of plastics (both stability and deformation) should be conducted with the time factor as the basic consideration. Experiments on tensile testing machines and other experiments which do not directly consider the time factor (for example, the impact test) may be evaluated only like conventional ones which make possible a comparison among different materials. In order to evaluate the structure of materials, testing should be performed at low deformations; otherwise, structure changes occur during testing which obscure the structural differences of the materials being examined. Tests with large deformations chiefly

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ACCESSION NR: AP4012193

evaluate the technological properties of the material and indirectly indicate the possibility of imparting those or other mechanical properties to the material being tested. In research on mechanical properties, the basic directions should be: extensive testing on stability and creep; short-duration deformation testing with low values of deformation (heat-mechanical curves, short-duration creep curves, etc.); testing on stress relaxation and form reduction. Any method of deformation can provide a valuable picture of the material structure. For quantitative relationships of deformation, a uniform clean shear is best. Equations to describe deformation properties are given. The constants of these equations characterize the deformation properties. An accumulation of corresponding experimental data should ensure the evaluation of heat resistance, frost resistance, hardenability, degree of hardening, and other deformation properties. Orig. art. has: 5 equations.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: MA

NO REF SOV: 018

OTHER: 001

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GLUZHOV, Ye. Ye.

Role of the flow melt index in the determination of some technological parameters of production processes. Plast. massy no. 12:21-23 '65 (MMA 10:1)

37732

3/120/62/000/002/017/047  
E140/E163

21.6000

AUTHORS: Glukhov, Yu.A., Kurashov, A.A., Mel'nikov, G.P.,  
and Sidorov, V.A.

TITLE: Application of the STA teletype apparatus for  
information output from a multichannel analyser

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 70-75

TEXT: The article describes the use of a teletype  
apparatus for the output of information directly from the  
internal (es) memory of a multichannel fast-neutron spectrometer. ✓  
Output is in the form of a printed sheet and a five-row punched  
tape. The latter is used for input to a computer. The stored  
information was originally in binary form, but due to  
difficulties in binary-decimal conversion at the output, it was  
decided to record in the (es) memory directly in decimal.  
To prevent loss of capacity, the number of bits per channel was  
increased from 16 to 20 on the crt, which was found possible  
while retaining 256 channels as before. The decimal code used  
is the one in which the digits from 0 to 7 are in straight

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Application of the STA teletype... S/120/62/000/002/017/047  
E140/E163

binary form, 8 corresponds to binary 1110, and 9 to 1111.  
A dash is used to separate the data printed for each channel.  
It is stated that the substitution of ten type slugs on the  
teletype machine as required by the application takes one working  
day of a workman of "average qualification". The output rate is  
one channel per minute. The output system has been in use since  
May 1960 in the authors' laboratory, and has demonstrated  
reliable operation. It has reduced the time required for the  
processing of each spectrum from two working days to two  
minutes.

There are 3 figures.

ASSOCIATION: Institut atomnoy energii AN SSSR  
(Institute of Atomic Energy, AS USSR)

SUBMITTED: May 6, 1961

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